

# MASSACHUSETTS PLOUGHMAN

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Correspondents from practical farmers, giving their experience, are solicited. Letters should be signed with the writer's real name, in full, which will be printed with the note as the writer may wish.

THE PLOUGHMAN OFFERS GREAT ADVANTAGES TO ADVERTISERS. ITS CIRCULATION IS LARGE AND AMONG THE MOST ACTIVE AND INTELLIGENT PORTION OF THE COMMUNITY.

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#### Agricultural.

##### Munurial Value of Muck.

The word "muck" has come to be used in New England, and perhaps in most of the states, not as it was, and is yet in the old country, as meaning green or wet manure, but is applied to the soil from swampy places where vegetable matter grows and decays, a part of the year so saturated with water as to be preserved from rapid decay, and a part of the time getting dry enough to ferment and decay, but where the water is so nearly stagnant that but little of the organic matter it contains is washed away.

Naturally, as these swamps vary much in extent and surroundings, and in the character of the growth around or upon them, they must also be very different in the character of the soil, and in its manurial value when carried to higher land, lacking in vegetable matter. The swamp where the long water mosses grow, or those which receive the fall of leaves from surrounding forests of hard woods and maples or beech, should accumulate a large amount of vegetable matter each year. This material furnishes an amount of nitrogen and potash, varying according to the material from which it is made, but usually contains but little phosphoric acid.

Of some twenty samples examined at the experiment station in Maine, none are reported as having less than 75 per cent. water when taken out, and some nearly 87 per cent. It is this which makes the cost of handling it so great. When it was dried to a water-free material, which can be done in the laboratory but not very well on the farm, they were found to vary from 51.6 to 96.2 per cent. of organic matter; but those which had the most organic matter did not have the most nitrogen, that varying from 2.85 per cent. in a sample with 86.5 of organic matter to 1.15 in 51.6 organic matter. Phosphoric acid varied from nearly two per cent. down to 11-100 of one per cent., and potash from 90-100 to 2-100 per cent.

This gives some idea of the variable quality of muck from different localities, and as it can scarcely be dried to contain less than forty to fifty per cent. of moisture, the amount of fertilizing material in a ton would not be large in even the best samples. But this power of absorbing and retaining moisture is one of the most valuable properties. When it is well dried by handling in dry weather, and used as an absorbent in the stables, some of the best samples will absorb from four to six times their weight in urine. When mixed with a light or sandy soil, it may cause it to hold the moisture the crop will need for its growth, and give it out to the dryer sand when most wanted.

There were ten samples that had about two per cent., or 40 pounds to the ton, of nitrogen in the water-free material, and three samples had over 50 pounds to the ton. Even though this was divided by two, to allow for the moisture in the partially dried heap on the farm, it would still be a good fertilizer, if mineral fertilizers containing potash and phosphoric acid were used with it.

Professor Davenport, dean of the Illinois College of Agriculture, at the meeting of the Illinois Stock Breeders' Association said that less than one per cent. of the cattle in the United States are registered animals of any breed, and only 10 per cent. are grades of one-half blood or better." Then there are 83 per cent. that might be called "scrub" cattle, but we think this is not correct. There are many that, if not half bloods, have still so much of some strain of pure blood that they show the marks of at least a pure breed upon one side. Years ago, when our travels carried us over a much larger territory than they have recently, we seldom saw a cow that we could not see indications of the Shorthorn, Devon, Ayrshire, Jersey or Hereford blood in her looks, and while she might not have been a grade or half blood, we never handled one of them that did not show her breeding in other ways beside her color and form. We have had some that we could not guess what breed predominated in their make-up, but they sometimes showed it in the pal, churn or in the calf. If they did not we did not keep them long. In the Southern States there are less registered and half-blood animals than elsewhere, and perhaps the largest percentage may be found in some of the central and Western States where they are raising beef stock, but the dairy States are not much behind in the use of pure-bred sires.

Some specimens taken from under stumps contain so much acid that they are difficult to crops, if used before they have been fermented, or at least seasoned by exposure to the weather, but this process of drying the acid can be much hastened by mixing lime or wood ashes with the muck. This does not injure it for use in compost heap.

A ton of muck that has been seasoned and is as nearly dry as possible is a very good fertilizer to use as an absorbent for the kitchen and chamber slops, soap suds, dead animals, and in this way be made most valuable to the farmer.

What we do not say that muck from all swamps is worth digging out, or worth hauling a great distance when one has other profits to work for man and team, yet we think any one who has such a muck bed should take the trouble to get some of it home, and after weathering, it a year or composting it in some of the other ways we have suggested, to give it a fair trial where it is most needed, the fields that lack in humus or organic vegetable matter. One such test well made will prove more in regard to its



value on the home farm than a dozen chemical analyses, which may be from a sample so taken as to show but little of the true value. That from near the outer edge of the swamp may be so mixed with sand and loam washed from the higher lands, or have fertility drawn from it by trees as to be much below the average value.

**Live Stock Notes.**  
The possibilities of rape for feeding to sheep and hogs are not fully realized. We think it will grow on almost any soil and in any climate to the turnip or cabbage will thrive in. Cattle, sheep and swine eat it readily; if not at first, after a few days. It

they come near her. We once had two sows farrow in one pen, one having seven pigs and the other but two living, and as she was the best supplied with milk, some of the pigs suckled her as often as their own mother, but such cases are rare, and if we had been older and known more, we would not have taken the risk.

We remember reading a statement by an old physician that when there was danger or cases of colic from eating meat, the proper remedy was a dose of fine salt, either dry or in solution. This caused the mass which had packed solidly to disintegrate and pass off readily. Why would not

much as the increased demand for mutton and lamb, which has made the mutton breeds more popular in many sections than those known as wool breeds. While the sheep of the United States have increased in ten years from 35,935,364 to 39,936,663, better methods of caring for them and more liberal feeding we think has increased the wool production, even where mutton sheep have to some extent taken the place of those that held first place when wool was the principal object. And it is also true that some of the mutton breeds, though not shearing as many pounds of wool as the Merinos, will yield as much or nearly as much of scoured wool fit for the

explosion or fire. With the steam engine it was always considerable trouble to move it out of the barn, and in place to be operated, and then we were always in fear when there was any wind that a spark might set the barn on fire. Then water had to be hauled and the boiler filled, and in winter time it all had to be emptied out to keep boiler and pipes from bursting. Wood had to be prepared or coal bought, and while in operation it required one man, and he was something of an expert, to operate the same.

With the gasoline engine no expert, or even a hand, is required to run it. It may and we do keep ours in the barn all the

mont is full far north for soy beans. If tried at all they should be grown in a small way at first. For Vermont, corn is king and clover queen. Alfalfa, for the man who will put the time, energy, patience and money into it, is the seed, but the soy bean ranks hardly higher than the eight spot.

#### New York Farm Notes.

At this writing, March 2, we are in the midst of a great freshet. For over a week past there has been a continuous melting of the great body of snow, and finally rain set in and the ice went out of Deer river the first day of March—a little early for this country.

Now the fields are getting bare of snow. Since winter set in there has been a continuous run of sleighing. A portion of the time, in the highways, the snow was badly drifted, causing much delay in traveling, and a hindrance to farmers delivering milk to the stations.

Milk keeps well up in price at \$1.35 per hundred, and the farmers who follow winter dairying are not required to expend too much money for feeding stuffs, outside of their own farm products, are fortunate and can lay up a good sum for their labor.

One of our large farmers, who owns a choice herd of cows and who makes winter dairying pay to a large extent, raises all the grain he feeds throughout the entire season. He raises from a thousand to 1200 bushels of ears of corn, besides hundreds of bushels of oats and barley, which he has ground at a mill near by; and thus by feeding corn stalks and good hay, there is a saving of a satisfactory profit. This farmer makes farming pay.

Farmers, as a general rule, have been expending far too much money for feeding stuffs purchased at the high prices which have prevailed during the year past. Such a practice leaves too small a margin after all the bills have been settled for extra food. Our institute speakers are advocating and advising the farmers to rely more on what they can produce from their own farms, to carry on their business successfully.

Our local buyers are still paying six cents per pound, live weight, for veal calves. Dressed pork is bringing 7½ cents per pound, and not plentiful at that. Hay is from \$8 to \$11 per ton, according to quality. Extra fine quality of hay for pressing fetches \$11. Milch cows are high, owing to the price that milk brings, together with the abundance of fodder in this section of the country, to carry them through until grass comes. There is a great demand for horses of all kinds in this section. Fine, high-stepping horses are bringing the prices of former years before the decline. P. E. WHITE. Deer River, Lewis Co., N. Y., March 2.

#### Connecticut Farm Notes.

The recent heavy rains and thaws have carried off the snow, which latter was in heavy supply of late. Matters about here look like an early spring, as the blue birds and phoebe have begun to come.

We have had but very little snow this winter except the downfall of the last two heavy storms, which amounted to about twenty-four inches on the level. Therefore, the farmers have had hard work in getting their wood up and logs to mills.

W. L. and C. D. Wetmore have bought what is known as the Horace Humphrey Farm, Norfolk, Ct., a farm which comprises about three hundred acres. It is reported that they will carry a stock of one hundred milch cows when they get in running order. They will put in additional silos. Besides their creamery at Winchester they have an extensive milk business in Waterbury, Ct.

Potatoes are a dollar a bushel and apples are very scarce. Hay and grains are high in price. Cattle and stock generally are looking fine. F. L. Loomis recently purchased six head of fine cows and heifers of a Norfolk party. E. T. SMITH. Winchester Centre.

#### Soy Beans.

A good many farmers seem exercised nowadays over soy beans. The Vermont Experiment Station has received a number of letters of inquiry lately on this subject. Whether these queries are born of seed catalogue advertising or newspaper notices does not appear, but certainly the public interest is awakened.

The soy (soja) bean is a leguminous plant or nitrogen gatherer of Japanese origin. It has been grown here some fifteen years. Some varieties run to foliage, some to seed. The bean is used in oriental lands as human food, but in this country the entire plant is grown and used as cattle forage or as a cover crop and green manure. Some of the larger varieties produce fair amounts of forage, which is relatively rich in protein and well relished.

The Vermont Station has grown the crop in a small way for several years. Its officers do not, however, feel like recommending its general adoption in this State. Seldom if ever can an amount of food be found equal to that which may be produced in the corn crop with an equal expenditure of time, effort and money. The forage from the soy bean is richer, but the quality gain is more than offset by the quantity loss as compared with corn. It is readily planted, and is handled throughout the growing season much as is corn, but is less easily harvested. It may be fed green as a silage crop or ensiled alone or with corn.

It may be planted in the row with corn with a fair prospect of success. Indeed, on good soil this is perhaps as good a way to grow it as any, while burial in the silo with the corn is its fit and appropriate end. The United States Department of Agriculture has issued a farmers' bulletin on soy beans, which discusses the plant, its growth, harvest and feeding value. The bulletin may be had for the asking. But when all is said it is felt that Ver-

The "Good Old Times" Farmer. The American of the Revolutionary period was an extremely poor farmer. Looking back on his methods and his work, it is hard to say which were the most crude, his implements or his ideas.

He used a wooden plow; he was afraid an iron one would "poison the soil."

He had not yet learned that glanders was contagious, and would work and stable healthy stock alongside of stock affected by it, and wonder what there was in the soil, air or climate that carried them off.

He didn't understand the use of fertilizers, and instead of spreading his barnyard manure on his fields, he let it accumulate around his barn until the approaches were impassable. Then he dug the barn out and moved it.

Instead of rotating crops to save his soil, he planted according to the phases of the moon.

There were few sheep in the country, and other live stock was poor and scanty.

In Virginia the belief prevailed that it would kill cows to house and milk them in the winter.

Transportation was poor and continued so for a long time. The roads could not have been worse. Markets were scattered and far between.

Each farm attempted to be self-sustaining as large a degree as possible. What the farmer couldn't grow or his wife couldn't make they went without.

Wasteful methods of tillage eventually exhausted a soil originally rich, and in the reign of Andrew Jackson agriculture had fallen into such an alarming state of neglect and inefficiency that the Government had to come to its relief.

Through the efforts of Henry L. Ellsworth, commissioner of patents, a bureau was established in the Patent Office, which developed into the Department of Agriculture. By aid of that department principally farming has been made a science.—Ainslie's.



THIS BE A REMEDY FOR BLOATING CAUSED BY EATING CLOVER, RAPE OR GRAIN RYE? IT IS SIMPLE AND ALWAYS AT HAND TO GIVE, AND CAN DO NO HARM EVEN IF ADMINISTERED WHILE AWAITING THE ARRIVAL OF A VETERINARIAN.

A FARMER KEEPS FOUR OR MORE BREEDING SOWS IT WILL USUALLY BE PROFITABLE FOR HIM TO KEEP ONE GOOD PURE-BRED BOAR OF SOME STANDARD BREED. HE NEED NOT PAY A PRICE UP TO THE HUNDREDS OF DOLLARS FOR IT TO CROSS UPON GRADE SOWS. ONE GOOD ENOUGH FOR THAT PURPOSE MAY USUALLY BE FOUND AT \$10 TO \$25 AND THE GAIN IN VALUE OF FOUR LITTERS OF PIGS SHOULD BE REPAY THAT COST THAN THE COST OF KEEPING SCRUB OR GRADE BOAR. HE SHOULD BE ABLE TO SERVE MANY MORE THAN THAT NUMBER, AND IF THE OWNER IS INCLINED TO ACCOMMODATE HIS NEIGHBORS WITH HIS USE, HE SHOULD CHARGE A SERVICE FEE IN PROPORTION TO HIS VALUE, NOT ENOUGH TO SEEM EXORTIONATE, NOR SO LOW AS TO SEEM LIKE BESTOWING A CHARITY ON THOSE WHO ARE NOT OBJECTS OF CHARITY. IF A POOR NEIGHBOR IS UNABLE TO PAY A FEE AS WEAS CHARITABLE AS WE PLEASE.

BUT NEVER USE A BOAR THAT IS CROSS BREED BETWEEN TWO BREEDS. IT WOULD BE BETTER TO USE A HIGH GRADE OF SOME BREED, BECAUSE WHILE HIS PIGS MAY HAVE AN OCCASIONAL ONE REVERT TO THE UNKNOWN POORER BREED, THEY WILL BE MORE UNIFORM THAN THE ONE IN WHICH THE DISTINGUISHED BREEDS ARE STRUGGLING FOR THE MASTERY, NEITHER HAVING A PREDOMINANCE OVER THE OTHER, OR THE PREPOTENCY TO PRODUCE A FIXED TYPE. SEE THAT HE IS THRIFTY WHEN TAKEN, AND KEEP HIM SO BY NOT OVERFEEDING, AND BY SUFFICIENT EXERCISE. AND ONE THING MORE, NEVER LET HIM BE TAKEN AWAY TO THE SOW, BUT INSIST ON THEIR BEING BROUGHT TO HIM. IF TAKEN AWAY HE MAY NOT BE FED AS HE SHOULD BE; HE MAY GET LICE OR MANGE OR SOME OTHER DISORDER IN A STRANGE PEN, AND NOT THE LEAST, THE MOVING HIM WILL ABILISSE HIS ABILITY TO GET LARGE LITTERS OF STRONG AND HEALTHY PIGS. IT MAY ALSO, IF HE IS NOT CAREFULLY HANDLED, CAUSE HIM TO GET TOO UGLY TO BE EASILY TAKEN CARE OF, AND IS ALMOST SURE TO DEVELOP A DESIRE TO BREAK OUT OF PEN. OFTEN, TOO, THE DRIVING OR MOVING OF SOW TO BULL IS JUST WHAT IS NEEDED TO SO REDUCE HER CONDITION THAT THE SERVICE WILL BE MOST EFFECTUAL. THIS IS PARTICULARLY THE CASE WHERE SHE HAS BEEN WELL NUTRITIONED.

ONE WRITER IN RURAL NEW YORKER CLAIMS THAT BY DISHORNING HIS CALVES WITH CAUSTIC POTASH, AND USING A DISHORNED BULL FOR IT, HE HAS FOUND THE QUALITY OF HIS HERD, HIGH-GRADE JERSEY, TO HAVE DETERIORATED VERY MUCH, AND THE POOREST ONES ARE THOSE THAT HAVE BEEN DISHORNED, AND ARE DISHORNED STOCK ON BOTH SIDES. WE HAVE SEEN CLAIMS BEFORE THAT DISHORNING WEAKENED THE POWER OF THE BULL, BUT HAVE HAD LITTLE FAITH IN IT, AS THERE SEEMED TO BE NO FACTS TO SUPPORT IT. IF ANY HAVE FACTS TO SUPPORT OR DISPROVE THIS THEORY, WE SHOULD BE GLAD TO PUBLISH THEM, EVEN IF THEY ARE NOT IN ACCORDANCE WITH OUR OPINION. BUT WE WANT TO BRING OUT THE TRUTH IN THE MATTER. IF DISHORNING BY CHECKING THE GROWTH OF THE HORN IN THE CALF CAN INJURE IT SO THAT THE HEIFER PRODUCES LESS MILK OR BUTTER, OR THE BULL DOES NOT GET AS GOOD CALVES, IT WOULD SEEM THAT CUTTING THE HORN AFTER IT HAS GROWN SHOULD BE STILL MORE INJURIOUS.

#### Power on the Farm.

IN THE DISCUSSION OF THIS TOPIC IN A RECENT NUMBER OF YOUR JOURNAL, WE NOTICE THAT THE WRITER GIVES THE STEAM ENGINE PREFERENCE. IT MIGHT BE PREFERABLE IN A DAIRY WHERE BOTH POWER AND HOT WATER ARE NEEDED, BUT FOR GENERAL USE ON THE FARM, WE WOULD PLACE THE GASOLINE ENGINE FIRST. WE HAVE USED ON THE FARM MOST ALL KINDS OF POWER, FROM THE SWEEP, TREAD, STREAM, TO THE GASOLINE ENGINE. FOR RUNNING A SMALL STRAW CUTTER OR CORN SHELLER, THE OLD OVERHEAD SWEEP POWER IS A GOOD ONE. A TREAD POWER IS ECONOMICAL ALSO WHEN THE CAPACITY OF FARM MACHINERY DOES NOT REQUIRE MORE THAN TWO-HORSE POWER TO OPERATE THEM.

BUT ALL THINGS CONSIDERED THE GASOLINE ENGINE IS THE CHEAPEST AND MOST SATISFACTORY POWER WE HAVE EVER HAD ANYTHING TO DO WITH. SIX YEARS AGO WE PURCHASED A SIX-HORSE GASOLINE ENGINE, TO RUN OUR FODDER HUSKER AND SHREDDER, A BONE GRINDER, FEED MILL AND CUTTING BOX. IT HAS GIVEN PERFECT SATISFACTION IN EVERY WAY. IN THE FIRST PLACE IT IS NOT SO DANGEROUS AS THE STEAM ENGINE. THERE IS NO LIABILITY OF EXPLOSION OR FIRE.

THE VERMONT STATION HAS GROWN THE CROP IN A SMALL WAY FOR SEVERAL YEARS. ITS OFFICERS DO NOT, HOWEVER, FEEL LIKE RECOMMENDING ITS GENERAL ADOPTION IN THIS STATE. Seldom if ever can an amount of food be found equal to that which may be produced in the corn crop with an equal expenditure of time, effort and money. The forage from the soy bean is richer, but the quality gain is more than offset by the quantity loss as compared with corn. It is readily planted, and is handled throughout the growing season much as is corn, but is less easily harvested. It may be fed green as a silage crop or ensiled alone or with corn.

**Agricultural.****Seasonable Cat Notes.**

One of the most important things to remember now (particularly with kittens) is that they should be allowed as much fresh air as possible. This tends to invigorate them, to make them become larger, permitting health and growth of a thicker bed of hair. If kittens are housed, allowed to be quartered in warm places, they don't have the necessary rigidity to warrant their hair growing or becoming as long and thick as the ordinary specimens.

Much success is achieved by this simple fact well in hand, as one breeder who has thorough knowledge of these fresh-air problems produces an animal with all points that are required in an Angora of high degree, the same time bringing out extraordinary growth of hair, by which the cat secures extra value.

The eye of the Angora is one of its most attractive features, and in mating specimens, should the mother be off in the eye, the father should possess this point more strongly, so as to produce the increase in offspring. In choosing Angoras the eyes have much to do with the expression of the face. The mouth and nose don't possess those points which are much thought of in selecting a specimen. It is said that cats smile and dogs laugh, but these statements are far-fetched, and if one's imagination is sufficiently stretched, a slight quiver of the lip might indicate a smile.

Much depends upon the general expression of the face, if the markings are even. If one eye should be covered with black and the other white, the cat hasn't the right appearance and is not as pleasing. The face, if evenly marked, gives the cat a much better general effect, whereas the body can be marked very irregularly and not affect the value. It is, of course, desirable, if cats be of mixed colors and more dark than light, to have the light well placed, i.e., white stockings, breast and face.

The so-called ermine kittens often come prettily marked, although as a rule the markings are so irregular that the breed of these particular cats has not been sufficiently established to warrant them a class of their own. Some breeders have lately produced a pretty cat called chinchilla, or smoke. Now a cat of this color is hard to breed, and one is likely to get no two cats alike. The true smoke color is very attractive for a cat, and the proper shade affords a very pleasing combination and a color not at all common.

The smoke-colored cats, so called by old breeders, used to be a black cat with white hair nearest the body, but now the cat must be more of a chinchilla to come under that class.

Fads change with the breeding of Angoras as to type the same as with other animals, and this season there is a great call for the "toy" type, so called. A specimen must have short legs, body thus being closer to the ground. Too many breeders have been raising Angoras for size, quantity, so to speak, rather than quality. Those that are not familiar thought a large cat was a thoroughbred and a small one, of the toy sort, a dwarf.

The hair is most important, and breeders should give the same much attention at this time, when the Angora is about to shed. Much depends another season as to the new growth, the care it has at this time. Nurse the hair, give the specimen proper food to feed it. Help it to wash itself and take care of its beautiful covering. Long, straight hair is far better than curly hair. The long hair is more healthy, lasts longer, keeps in better condition. In judging cats the one with long fur scores more. Curly hair is very unsatisfactory. It is not so soft and clean or grows so long. A cat is never so clean or as well groomed that has it. It breaks, makes short hairs in spots where long is required. There are cases where if a cat is properly groomed, curly hair, moderately so, is very effective; if the average specimens would "run off," the cat would three-quarters of the time have a very undignified appearance.

Long hair is important, not curly, more than for one reason. A specimen after being dry in time the fur becomes disarranged. Now if itcurls under the stomach it is one mass of knots or bunches, gathering as it does all the dust or dirt. In time these bunches of hair cannot be brushed out and the only way to do is to cut them. The cat then is left in an undignified condition, with here and there spots where the fur shows itself gone. Breeders want long, hairless cats rather than one off in fur. It is never proper to cut the nails of a cat. Sometimes when a cat is allowed to come into the house the nails are prominent and the cause of much mischief. Many who have these cats as pets, in order to prevent the destruction of carpets, woodwork or furniture, cut the nails slightly, which prevents them from doing further mischief until they grow out again. But this affects the general system, and the health is found afterwards to suffer. Let the cat go out, it misses the assistance of the nails. Never cut "breeders'" nails.

The nails in a measure are as sensitive as the whiskers, which should never be cut. Experiments have been made in cutting the hair on the thickly coated cats in summer. It has been found that these specimens do not specially benefit from it, and it is a fact the coat never returns as vigorous or as even. The hair or ruff should never be cut.

Cats can be washed like dogs. Unless a cat is brought up from a kitten it requires a little skill to get them acquainted so as not to be frightened. Cats do not take to water naturally, as a dog. Sponge baths are more frequently employed. The face, nose and eyes can be washed each morning and the cat is better for it.

The feeding of cats now is probably more important than any other season of the year, breeders especially. The diet should be regulated according to the needs and requirements of the specimens. Some cats are more ravenous than others, and are fed on coarser food. It is hard to set a rigid diet, but each fancier should acquaint himself as to the proper feeding of his specimens. Individual feeding is practiced more now, and is more desirable, than if a large number were fed in one lot. The stronger one thrives, while the weaker does not get proper nourishment. Many a valuable specimen is lost in this way and others stunted. A large flock can be badly injured by small things of this nature, if they are allowed to go unnoticed. Best diets are those made of cereals with milk, well seasoned. Milk should be warm, not cold, when given. Cooked meat, cut fine, in small quantities and fish is safely used only when careful study is made. Better bring up young stock minus meat. It is well to give variety; after you feed remove dish. Never allow food stains to remain to have easy access. Set the hours of your meals, that cat will be on hand. More than ninety-five per cent of diseases are caused by improper feeding.

ROBERT KENT JAMES.  
Boston, Mass.

**LARGEST PEPPERMINT FARM.**

Campania Farm, as it is called, is located in Allegan County, in one of the southern tiers of the Michigan fruit belt. The only means of reaching it is by buckboard over a dozen miles of loose roads. The wagon wheels leave no ruts, for the sand in their wake settles back into place again. Orchards are passed, and waste land covered with scrub oaks and maple, and two or three miles before the mint fields are reached their presence is hinted at by an unnameable tang in the air.

The farm was originally a fresh-water swamp—probably a part of Lake Michigan not very many generations ago. It is easier to picture a desert blooming as a rose than to imagine mire and green scum taking form as candy canes. Yet such is the case. Half a century of experiment and ditch digging have taught the trick.

The small timber is first cut off and a rich black earth is found beneath. The land is then drained by means of ditches, which for length are small canals and which are later used for irrigation purposes in the dry season. In the spring, on the contrary, the earth is so loose and shaky that the horses used in cultivating it wear marsh shoes—broad pieces of board fastened to their hoofs to keep them from sinking.

Campania Farm contains 1600 acres of such highly fertile soil, and two thousand more are now being added to it. It spreads out as flat as a duck pond—a lake of glistening waves of crinkly green leaves blanketed at nightfall with a thick vapor. It is a chemical laboratory exactly two miles wide. There are no fences, but the ditches are laid off with geometrical precision. A roadway intersects it at right angles, and at the exact centre are the buildings from which the whole is operated, and at which live more people than in many of the neighboring villages. The smart in the newcomer's eyes, as well as his nose, tells him that he is in the middle of the biggest mint field in the world. There is a peculiar dampness and chill to the atmosphere, especially after dusk.

A model boarding house accommodates one hundred men, and near by is the summer cottage of former Congressman Todd, the owner of the farm. There are ice houses and farm buildings in profusion, warehouses, a library and club rooms for the workers, and what is said to be the biggest barn in the world. This last represents one of the most daring pieces of economy in the industry. The disposal of the hundreds of tons of mint hay after the oil had been extracted was one of the earliest problems to be met.

From the farms the oil is shipped to the big Todd laboratories in Kalamazoo, in which the largest part of the mint oil produced in the State is refined by secret processes, which have made possible the organization of the industry on so large a scale (100,000 pounds of the refined oil, worth \$150,000, was shipped last year all over the world—half of it to England and Europe). The Michigan oil received the gold medal at both the Paris and Buffalo Expositions—New York Sun.



GROUP OF HAMPSHIRE DOWN EWE LAMBS.

planting nor as much cultivating and weeding. The ground is plowed to a depth of six inches each fall and the crop follows without resetting, the pains toward keeping up the richness of the soil all increasing.

To take the product of Campania Farm are three large stills said to be the most powerful of the kind in the world. The ordinary still turns out one hundred pounds of oil a day. These handle over 160. The mint is pitched into large steam-tight vats with closely fitting covers. A jet of steam is turned on and the oil cells swell and burst. The oil is vaporized and carried out with the steam to a worm over which cold water is running. Steam and oil vapor are both condensed, but in the tanks into which the liquid runs the oil rises and is easily drawn off into storage cans containing from twenty to thirty-seven pounds. In the main warehouse is a tank holding seven thousand pounds, provided as a safeguard against fire.

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**Butter Market.**

There is a firmer feeling in the butter market this week, though there are but few changes in the prices, and best creamery

now sells lower here than in New York and Western markets.

The changes result more in an increased demand and a little better rate for good fats and dairy markets than in higher rates for extra creamery, for which 20 cents is asked, though it is hard to get buyers to pay over 25 cents, and some dealers seem to think it harder to let an oil customer go away without selling him what he wants. Best marks of Eastern are held at 26 to 28 cents, and Northern or Western firsts are selling at 27 to 28 cents, seconds at 22 to 25 cents. There is not much June extra to be found, and it is held at 23 to 24 cents, with fair to good at 19 to 22 cents. Boxes and prints are not in as good demand as last week. Extra creamery is held at 29 cents, extra dairy at 26 cents, and fair to good at 18 to 23 cents. Dairy in tubs 25 to 26 cents for Vermont, and 24 to 25 for new extra. Firsts 22 to 23 cents, and seconds 18 to 20 cents. But little doing in Western imitation creamery, but some extra goes at 19 to 20 cents, firsts at 16 to 18 cents dull. Very few ladies here, nominally at 15 to 18 cents. A fair call for fresh meat renovated at 22 to 25 cents, but fair to good at 18 to 21 cents not in much demand.

The receipts of butter at Boston for the week ending March 1 were 10,783 tubs and 13,963 boxes, a total weight of 522,931 pounds, including 28,500 pounds in transit for export, and, with the latter deducted, the net total was 494,431 pounds, against 508,157 pounds the previous week and 518,737 pounds for the corresponding week last year.

The exports of butter from Boston for the week were 51,424 pounds, against 82,816 pounds for the corresponding week last year. From New York the exports were 1461 packages, nearly all renovated butter from the West. Our through exports are mainly from Canada.

The Quincy Market Cold Storage Company reports the stock of butter at 31,903 tubs, against 22,903 tubs last year. The Eastern Company stock is 4061 tubs, against 4166 tubs last year, and, with these holdings added, the total stock is 35,564 tubs, against 27,159 tubs, same time a year ago, an increase for this year of only 4405 tubs. During the month of February the stock was reduced 37,381 tubs, against 19,297 tubs for the same time last year.

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**Poultry.****Practical Poultry Points.**

that there are many who think that ducks can be made profitable as egg producers, is evident from the many ducks eggs found in our markets in the spring. The ducks, especially the Pekin, are almost continuous layers, as they lay nearly every day after they begin, which may be as early as February, and keeping on for several weeks before they get broody. Many of them also lay again in the fall. The eggs are larger than the ordinary hens, and said to be richer when used in cooking. There are some who profess not to like the flavor of the duck's egg, but that others appreciate them is shown by the fact that they sell at a much higher price when they first begin, and seldom sell for less than twenty cents a dozen at wholesale, or twenty-five cents at retail in our Eastern markets. The duck also eats coarser food, and while a voracious feeder will gather much of their food themselves if allowed their liberty. They are also housed more cheaply than the hen, but they need much care to keep their houses clean and well bedded, and to keep them there in the morning until they have laid their eggs for the day.

A writer in an exchange says of the Brahmas and Plymouth Rocks at the recent Poultry Show in New York, that "a feature of the show was the enormous size of individuals of the layer breeds, showing what can be done by care breeding and selection. It is seldom that such large Brahmas and Plymouth Rocks are seen in an ordinary poultry yard." We are glad that they are not. We have protested against such overgrown specimens being used as breeding stock, and they have no more title to be awarded premiums than the undersized ones, but should be disqualified as soon as recognized. We have had them in both breeds, and the hens were not good layers, or the males sure stock getters. Among the first Brahma chickens we ever raised was a cockerel that weighed a little more than thirteen pounds alive, when, if we remember right, he was not quite six months old. Certainly he was a spring chicken and we did not winter him. He showed too much like the Chittagongs that we knew before the war, that could eat off the top of a barrel, and were limited to about sixty eggs a year for the hens, and three or four chickens out of fifteen eggs. The standard calls for birds heavy enough, and extra weight or extra length of legs and neck does not give more eggs or better birds for the table.

Poultry dealers in some of the Western States are reported as complaining that they cannot get as many young birds for market this year as usual for the season, and an exchange suggests that it is because the people there have a better idea of the profit in keeping fowl for egg production, and would not sell their pullets in the fall, hoping to obtain eggs from them in the winter or next spring. Not being familiar with the country there, we cannot say how much truth there is in this theory, but we hope it is a correct one. Here we are, in the middle of February, with no eggs in cold storage in Boston, although the supply last fall was larger than ever before, and but few eggs coming. Demand has slackened because many are not willing to pay more than a few weeks ago, and think they can and must use them less freely than they have done until warmer weather causes increased production.

But cold storage has worked a great change in the egg trade. Not many years ago eggs were so plenty in April and May or up to the time the hens began to get broody, that the poultry keepers thought they were scarcely worth taking to market. Now the demand for eggs in April and early May to be put in storage is such that they sell at almost as much as at other seasons, even though the hens are doing their best. It would be interesting to look back over a year's record now, or on April 1 and see how much good fresh eggs have varied in price during the year, or rather how little, not taking into account the fancy nearby lots that go to those who do not care what they pay, but such eggs as are sold in the markets to the greater number of the buyers.

And those eggs graded as choice or selected fresh, or the eggs from cold storage are sweet and wholesome, and those who use them are not too fastidious to relish them. Indeed, we doubt if some of those who pay the prices of fancy eggs, new laid, would know the difference if they had some that were a month old or had been in cold storage six months.

The poultry keeper or person who has made that a specialty, to the exclusion of nearly everything else, is usually selected to tell at the Farmers' Institutes, to instruct the farmers how to keep and care for their poultry. It may be that they are the best informed, and thus the best fitted to impart useful knowledge, but we have thought as we read what they had to say that they were apt to get a little bewildered to some of the audience. When they talk about thousands of fowls, acres of hen yards, incubator cells with a half dozen or more 20-egg machines running most of the year, or at least most of the winter months, and steam-heated brooder houses, are they not a little over the head of those who are they to listen to them. Such a life means the investment of hundreds if not thousands of dollars in capital, an expense which would make advice unnecessary, and not only devoting one's whole life to the business, but the employment of other help.

It is much like the advice we used to hear to buy a herd fifty years ago, for the farmer to try to follow better cows by getting a \$5000 Shorthorn bull; advice which those whose farms were not valued at over \$1000, with possibly a coverage of \$500 on that, and whose two fine cows were assessed at \$10 to \$20 each, could not well follow. Another bit of advice in those days was that farmers who had swamp lands worth about \$5 an acre should expend \$150 per acre to have the same drained. The advice may have been good, but we never learned that the owners were willing to loan them the money and wait for the future crops to repay them.

Now, we believe that almost every man who has a tract of land from 5 to 60 acres should keep poultry. He should have a good comfortable building, or more than one for them, and enclosed yards for them. The number may be twenty-five or 250, according to his knowledge of the business, and the help that he may expect from members of his family, especially those too young or too old to share in the more laborious work of the farm. He should care for them or see that they were properly cared for. He should grow from three to seven chickens each year for every old fowl kept, and after selecting the best stock he grows to keep his flock another year up to their numbers, should market the others. By so doing we think he could realize a fair profit,

of from \$1 to \$3 per head, on his original stock, and that without hindering the other farm work, which he may think more important, to any considerable extent. If the time comes when he thinks best to devote himself entirely to the poultry business, then let the specialist give him instructions.

**Poultry and Game.**

The poultry supply continues good, with but a light demand, and Western lots are certainly easier, though fresh-killed Northern and Eastern chickens are steady. Choice large roasting chickens bring 18 to 20 cents and broilers 20 to 25 cents, with fair to good chickens 12 to 14 cents. Very few fowls bring over 13 cents and most lots are 11 to 12 cents. Choice pigeons are \$1.25 a dozen, common to good 75 cents to \$1.25. Choice large squabs in demand at \$2.50 to \$3 a dozen, but the class from \$1.50 to \$2.25 sell hard. Western dry-packed stock in barrels in fair demand but must be bargain prices. There are some choice chickens that bring 18 cents, but the bulk are 11 to 13 cents. Fowls 11½ cents for selected large, and 10½ to 11 cents for fair to good. Choice large capons are very scarce and held at 16 to 17 cents, with small to medium 13 to 15 cents. Ducks, good to choice, 14 to 16 cents, and geese at 10 to 12 cents. Choice young hen turkeys are scarce at 16½ cents headed and drawn, choice hen and toms sell at 15 to 16 cents, mixed lots 15½ cents, old toms 12 to 13 cents, and poor No. 2 9 to 11 cents. Barred stock nearly the same this week. Live poultry in light receipt. Fowl in demand at 11 to 11½ cents, chickens at 10 to 11 cents, and old roosters dull at 5 to 6 cents.

Game is dull, but little fresh-killed coming in. Grouse from storage \$2 to \$2.50 a pair and quail \$2 to \$3 a dozen. Some wild geese sold last week at \$1 each and brant \$1 a pair. Small shore ducks, as coots, teal, widgeons, whistlers, etc., come in at 30 to 60 cents, but they are mostly thin in flesh. Canavasback in storage at 50 cents to \$2.50 a pair and red heads 50 cents to \$1.50. Venison and wild game in storage, with little call and prices remaining steady.

**Horticultural.****Fungous Fruit Diseases.**

Prof. M. B. Waite of the United States Department of Agriculture recently lectured before the society in its hall on Huntington avenue on "Fungous Diseases of Fruits." His lecture was illustrated by a large number of lantern slides. He spoke, in part, as follows:

"Pear leaf blight, caused by the fungus Entomosporium maculatum, produces small round spots on the foliage, and causes the leaves to drop early in the season. It also produces ugly hard spots on the fruit, frequently causing it to crack open. It is readily preventable by spraying with bordeaux mixture, about three treatments being necessary on orchard trees. The first should be made as soon as the foliage is well out, about three weeks after the bloom sheds, and the other two at intervals of ten days to two weeks.

"The quince spot and the leaf blight of the quince is caused by the same fungus, and is preventable by the same treatment. However, the first treatment should be slightly earlier in the case of the quinces. Pear stocks and quince stocks in the nursery suffer severely from defoliation caused by this fungus. The treatment in this case should be more complete, the first spraying being made as soon as the first leaves are expanded, and about six treatments are necessary, at intervals of ten days to two weeks.

"Apple scab is one of the well-known pests of apple orchards, especially in the North. It is caused by the fungus Fusarium. A like species produces the pear scab, a similar disease of the pear. These diseases are also readily preventable by spraying with bordeaux. The treatment, however, should begin early in the season, as soon as the buds have burst from the cluster and exposed the individual flower buds. About three or five treatments are necessary.

"The bitter rot of the apple is a very serious pest in Maryland, Virginia to Missouri, and southward. While scab is particularly bad toward the North, bitter rot takes its place toward the South. The treatment for bitter rot should be about the same as for apple scab, but the results of spraying have not always been satisfactory. In the mountains of Virginia, both bitter rot and apple scab occur, the latter attacking the Winesaps, while the former attacks the York Imperial and Newtown Pippin.

"The Monilia fungus, causing rot of peaches, plums and other fruits, is one of the worst pests of the stone fruits. This fungus is greatly favored by wet weather and does an enormous amount of damage in the Atlantic coast States from New England to Florida. The past season it was particularly destructive from Maryland southward to Georgia. By far the larger part of the early peach crop of Georgia was destroyed by it, and in some orchards in Virginia the entire crop was taken, both early and late. It is a disease that is greatly favored by wet seasons and largely disappears when long periods of drought are at the ripening time. Persistent efforts have been made by a large number of investigators for the past five or six years to treat this disease by spraying. Various fungicides have been employed, and different times and numbers of treatments have been used. The results, we regret to say, have not been satisfactory. There seems to be but little trouble in preventing the Monilia, at least greatly reducing it in an average season, although in a very wet season this part of the programme cannot always be fully carried out. The main difficulty comes from the injury to the peach trees by spraying. Bordeaux mixture sprayed on apples, pears, quinces and also on potatoes and many other plants, has a distinctly beneficial effect on the plant aside from its fungicidal value. It increases the amount of chlorophyll, making the leaves darker green, and enables them to stand more drought and heat. They persist longer on the plant and more work in the case of the potato, at least, to assimilate more starch. There are probably minute amounts of copper salts absorbed into the leaves, producing this beneficial or tonic effect. On the other hand, the peach and the Japanese plum, as well as some other plants, are injured by the copper spray.

"The peach leaf curl is one of the few fungous diseases of the peach that is easily preventable by spraying, for the reason that the spraying in this case is done just as the buds are swelling. Ordinary standard bordeaux mixture should be used instead of the bordeaux to avoid discoloration of the ripe fruit.

"Pear blight is one of the most destructive pests of pomaceous fruits. It is caused by the microbe *Monilia amylovora*, one of the bacteria. This germ works in the blossoms, young fruits and fleshy bark, killing these tender succulent tissues and resulting frequently in the death of the entire tree. The disease enters the tree normally through the nectary of the bloom, and is carried from flower to flower and from tree to tree by bees and other insects, which are visiting the flowers for their honey. It also enters the tree through the tender tips of young shoots, but even here insect punctures and insect distribution are probably necessary. The tree resists the inroads of the blight quite strongly, and in a majority of cases successfully, the resistance depending on a number of different factors. In the majority of cases of infection of pear blight, the blight dies out during the summer time completely.

"There is a great deal of very bad bordeaux used in spraying, and it is possible to mix the bordeaux and lime in such a manner as to make vast differences in the mixture. The correct bordeaux mixture should be sky-blue in color, of a very fine grain, and should settle very slowly. The copper must be completely neutralized by the lime. To make good bordeaux, it is usually best to prepare stock solutions of both the lime and the copper sulphate.



A THOROUGHBRED SCOTCH COLLIE.

Buff and White Type.

into the fleshly bark of the limbs or body and remains alive over winter. These cases, which I call hold-over blight, start the infection on the blossoms the next spring. The remedy for pear blight consists especially in cutting out the hold-over blight in the fall of the year. The work should be done very thoroughly and carefully, cutting from six inches to a foot below the lowest discoloration. The trees should then be examined very carefully the next spring, just before the blossoms open, to be sure that no cases have escaped. Cutting out during spring or summer when the foliage is on is beneficial always, but may not necessarily be effective in eradicating the pest. About two to three weeks after the blossoms have shed, it is an important time to inspect the pear orchard for blight, and the prompt removal of a few cases at this time may be very beneficial.

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Valencias, ordinary \$4.50, extra large \$5 to \$5.50 a case. California grape fruit \$3.50 to \$3.25, and lemons, ordinary to fancy \$2.25, to \$3.50. Messing and Palermo lemons, 300 counts, good to choice \$2.75 to \$3, fancy \$3.25. Malaga grapes cleaning up at \$3.50 to \$6 a cask. Florida pineapples, smooth Cayenne \$3.50 to \$4.50 a case, figs at 12 to 18 cents a pound, dates at 4 to 4½ cents, bananas \$1.50 to \$2.50 a stem.

**Vegetables in Boston Market.**

The wet and cloudy weather has delayed the growth of hothouse products, and Southern shipments have been light, while some cause, perhaps the mud and bad roads more than anything else, has caused a scarcity of the usual supply of winter vegetables so that prices have taken a sharp advance on many things. Beets are from \$1.15 to \$1.25 a bushel, carrots 75 to 85 cents, and parsnips 85 to \$1, and even some fancy up to \$1.25. Flat turnips are dull 35 to 40 cents a box, yellow 75 to 90 cents a barrel, and white French \$1.25. Onions in only moderate supply and sound lots are firm at \$4 to \$4.25 a barrel, Havana \$2.50 to \$2.60 a crate and Spanish \$3.50 a case. Leek are 50 cents a dozen and shallots 15 cents a quart. Radish plenty at 25 cents a dozen, and celery fair to good at \$4 to \$5 a box. Salsify \$1 a dozen, artichokes \$1.50 a bushel and French artichokes \$2.50 a dozen. Cucumbers scarce at \$14 to \$18 per hundred for No. 1, No. 2 at about half price. Florida peppers \$2 to \$3 a carrier. Some egg plant coming very poor at \$4 to \$5 a case. Southern tomatoes in fair demand at \$3 to \$3.50 for six-backed carrier and hothouse 25 cents a pound. Hubbard squash firm at \$100 a ton and Marrow when offered \$80 to \$85. Southern summer \$2 a bushel crate. Asparagus scarce and small at \$3.50 to \$5 a dozen. Rhubarb 10 cents a pound and mushrooms 50 to 75 cents.

Cabbages are in only moderate supply at \$1.35 to \$1.50 a barrel, and red cabbage \$1 a box. California cauliflower varying from \$2.50 to \$3.25 a case as to size and quality. A few sprouts yet at 20 cents a quart. Norfolk kale 60 cents to \$1.25 a barrel. Norfolk spinach coming rather poor, \$1 to \$2.50 a barrel, and Baltimore \$1.50 to \$2.35. Lettuce 75 cents to \$1.25 a box of three dozen. Beet greens 85 cents, dandelions \$1.50 and parsley \$1.25 a box. Endive, fair to good, \$1.50 to \$2, fancy large \$2.50 to \$3 per dozen, escarole \$1.25 to \$1.50, and romaine \$1.75 to \$2. Florida string beans in fair supply, but many no choice, \$3 to \$4 a crate. California peas in but small supply at \$6 to \$8 for three to three-and-a-half crates.

Receipts of potatoes have been moderate, and demand fairly good and steady. Aroostook Green Mountain extra \$4 to 85 cents, fair to good 80 to 85 cents. Hebron, extra 80 to 85 cents, fair to good 78 to 80 cents. Rose 75 to 78 cents and Chenebago 70 to 75 cents. Prince Edward Island Dakota Red 70 to 75 cents and Chenebago 70 to 75 cents. Scotch, 18½-pounds sacks, \$2 to \$2.10, and Belgium \$1.75 to \$2. Sweet potatoes are in small supply. Jersey double-heads irregular in quality from \$2.50 to \$4 a barrel, while small lots of Vineland cloth-heads sold at \$5 to \$5.50.

—Bradstreet's reports exports of wheat for the week 323,540 bushels, against 3,600,435 last week; and 4,494,635 last year; since July 1, 1861, 166,435 bushels, against 151,122,733 last year. Corn for the week aggregated 312,664 bushels, against 267,380 last week and 3,882,943 last year; since July 1, 1901, 231,192 bushels, against 145,548 last year.

The total shipments of oats and barley from Boston this week have been 76,088 cases, against 82,927 cases last week; corresponding period last year, \$7,026. The total shipments thus far in 1902 have been 806,367 cases, against 764,680 cases in 1901.

The exports of dairy products from New York last week included 1336 packages of butter to Liverpool and 105 packages to London, most of both being renovated butter shipped from the West and 3517 boxes of cheese to Liverpool, 1573 to London, 440 to Bristol, 1233 to Newcastle, 1000 to Leith and Dundee and 50 to Glasgow, a total of 1461 packages of butter and 11,800 boxes of cheese.

Exports from Boston for the week ending Feb. 28, were valued at \$1,221,740 and imports at \$1,375,380. Exports of imports \$164

**MASSACHUSETTS PLOUGHMAN**  
NEW ENGLAND JOURNAL OF AGRICULTURE

There are also some Spanish Americans in Boston.

And, after all, it is pleasant to be able to think in English.

The footsteps of the Horse Show may be heard in the distance.

How much longer can we get along without what we have given up?

The Pope is an old man to have two birthday celebrations at the same time.

Judging by the first house that came to Boston by freight, we fear the second.

It is now time for some one to remark that Mr. Bryan always did like an uphill job.

Its upholders to the contrary, the death match will sooner or later abolish itself.

A great many questions of precedence have been settled during the last week or two.

Promotion is an excellent thing, but it is better for the young to be promoted than to try to promote.

Chelsea has also had her chief of police removed. The city is sometimes said to be slow, but it usually follows the fashion.

Who shall say that Gotham is heartless. A place has been discovered where even able-bodied beggars are supplied with crutches.

One of the saddest stories of the week is that of the student driven insane by over-work in an effort to pay his way to an education.

Miss Alice Roosevelt is going to Cuba. When she comes back perhaps she will be able to turn the eyes of Congress in the same direction.

We may not agree with Dr. Savage in the matter of departed spirits, but he will find much sympathy in his attacks upon ostentatious jewelry.

March came in like a lamb; but perhaps the floods roared sufficiently to even things up, and permit the month to go out without undue rampings.

In the case of the murder just now most prominently before the public, there seem to be a good many persons who think that the victim got just about what he deserved.

It is certainly unkind to say that portraits of State auditors are not of historical value; the statement, at least, does not apply to their accounts.

"Ah, the romantic mystification of these honeymooners." Ah, indeed, when the great public gets to discussing the movements of the honeymooners!

\$242,753.46 is the sum eaten up by the fire demon during January. Here is another fellow that modern civilization finds it difficult to reduce to idleness.

Fortunately for the prince, the custom of writing poetic remembrances in autograph albums and then presenting the result is no longer an American custom.

Some of the churches of Boston are being looted in time of peace. Religion is usually more sacred except when it belongs distinctly to somebody who has just been whipped.

Either the clergy is not afraid of sea-sickness, or the navy is considered a fine field for clerical labor, if we may judge from the four hundred applications for a single vacancy.

Groton has resumed, and the boys will soon sympathize with the inevitable fact that you can't have your cake and eat it, too. The Easter recess has been taken between meals.

"Eternal vigilance," remarked the city marshall of Springfield, as he thoughtfully removed his eyes from a local nickel-in-the-slot picture machine, "is sometimes its own reward."

The stage occasionally presents interesting contrasts. Here, for example, is John Storm bothered in his private capacity by the efforts of his divorced wife to receive alimony.

A man of seventy, down in Connecticut, has married his twenty-six-years-old house-keeper. Thus things even themselves up if we cast our eyes over a broad enough field of observation.

The suffragists have made a step forward without knowing it. Woman is rivaling man as an expert dog fancier, and here is proof positive of an advance in decision.

There is a rumor in New York that the sports are going to buy a vessel for the purpose of holding prize fights beyond the reach of the authorities. It thus appears that a reform administration may even compel a sport to take to water.

That new thoroughfare presents an interesting puzzle. Everybody admits the need of it, but when or where can the city spare enough of the district in question to make a wider street for the benefit of the rest of it?

Bostock's Arena has one bear less, and it is said that Harvard is to have one pelt more for its museum. Meantime the tigress is meditating over a few moments of really interesting experience.

The German veterans were easily the favored group at the Public Library reception. Each of them, in fact, had a little reception all by himself. "I'm glad they're here," said Mayor Collins.

The opinion of a majority of governors that the time of inaugurating the President might very well be changed may very well be taken as expert opinion. They all of them know what it is like to be inaugurated.

Somebody really ought to stop the barber who advertised as follows in the leading daily: "Gentlemen! everybody but you comes to my shop." But perhaps that is what he meant.

Mayor Carter Harrison is endeavoring to reduce his own salary, and will probably succeed in doing so. Here is an example

for the mayor of other cities that need money. Chicago is not the only one.

Blackmail is a hard habit to break off in Gotham, even when the protectors of the peace are under an honest administration. The fact was inevitable in view of the ease with which the uniformed blackmailer is able to pocket his money. The authorities, however, ought to be able to make the operation gradually a very expensive risk for operators.

**Our Royal Guest.**

Boston had on its best winter clothes for the visit of the prince on Thursday, and all the events of the day went off beautifully as planned. The people in the streets were sufficiently but not too interested, the hosts of the occasion were courteous without being fullsome. For once our public officials of all political colors and creeds ate together in admirable amity, and the prince left behind him here, as in every other American city that he has visited, an excellent impression as a cultivated and charming German gentleman.

Americans are naturally hospitable, and to welcome a worthy representative of the land which has given us a reformer like Luther, a poet like Goethe, philosophers like Kant and Hegel, and men of science of the Humboldt type,—not to mention musicians like Beethoven and Wagner,—was deemed an great privilege. Germany, we feel, is one of the great Powers of the modern world, and is to be ranked in the very forefront of the intellectual movement now going on for the higher emancipation of the race.

But that there is more to the visit than the desire of America and Germany to exchange felicitations on their respective attainments, a thoughtful person for a moment doubts. The visit of the German prince is to be regarded as a historic landmark, and as such can not be ignored by those who would travel intelligently the path of international politics. The United States has recently made itself felt in the East; we have grown from a republic into a republican empire, and William II. is far too clever a man not to have weighed the possible import of this growth, and far too keen a strategist not to have set himself at once to thinking out a move which should promote greater friendliness between his country and our own.

The visit for which Boston last Thursday twinned the American and the German flags was prepared with the utmost care, on at least one side of the Atlantic.

The history of Germany abounds in recent years in similar instances of German diplomacy, and the secret archives alone could tell how often great wars have been averted by just such royal moves as this one. For what is true of Germany is true of England and of Russia also. It is the business of the royal families of Europe to promote peace whenever they can, and it is the business of the United States to play up to them in all such matters,—so far as this is done with dignity and self-respect.

So, as a representative city in a peace-loving nation, we should be as glad to have had Prince Henry within our borders as he seemed glad to be here. It was our great privilege to regard him on this occasion as our honored guest. If there should ever be war between the United States and Germany, we should find that the Henry to whom we once extended the hospitality of our city is an admiral of such skill as even a Dewey might fear to meet, and that his brother is as good a soldier as he is a sailor. If the present visit, therefore, is the inauguration of a period of peace founded upon compulsory arbitration, the year 1902 should be a great year in history.

**Breeding for the Future.**

The expense of starting a good dairy must necessarily be quite considerable, but if one understands his business well, he can keep up the standard of the herd, and increase it, at a very nominal cost. On the other hand, if one does not look forward constantly to the future he will soon find that the cost of keeping up the work will be so great as to eat up the profits. The successful dairyman must consequently be somewhat of a breeder himself. He must raise stock for the future, and do it in such a way that the best results are obtained. A great many can start well with a good dairy herd, and they can feed and care for the stock all right; but they fail to look far enough ahead to keep down expenses. In other words, every few years they find it necessary to buy blooded stock of a breeder at a cost that takes down the average of profits. Their theory is that it is necessary to purchase such high-priced animals to prevent the herd from running down.

A good sensible method of breeding at home for the dairy would prevent any such necessity. With good stock to begin with, it is not so difficult to maintain the standard of the animals, especially if new blood is introduced from outside sources occasionally. To accomplish this, however, it will be necessary to keep the choice heifers of the best cows, and sire them to pure-bred bulls. It is largely a matter of intelligent selection. The cows and heifers selected for breeding should be chosen for those special points which are needed in the dairy business. It must be remembered that these animals are raised for their practical value and not for exhibition, nor even to establish a record for a high yield. The dairyman requires good, strong, healthy cows, which will average the year around plenty of rich milk and cream. Form has nothing to do with the matter beyond that which is necessary to preserve the type of the breed. The milking qualities are the first essential, and also the endurance of the animal under ordinary conditions. The very high-strung dairy animal which has no hardiness whatever may do for exhibit, but not for practical dairying. Gentle and docile, the high-strung animal which refuses to be milked without creating a disturbance, or a vicious brute, should find no place on the practical dairy farm no matter how much milk she gives. The trouble and uncertainty of milking would make the animal unprofitable. A hard milker is also to some extent an unprofitable animal. Time is money on the dairy, especially at milking time, and anything that tends to consume it increases the cost of the business.

**Apple Culture.**

Success in apple orcharding must depend a good deal upon the start we give the trees, as well as their condition at the time of transplanting. In my experience, I have found comparatively young trees better suited to the new orchard than older ones. The latter cannot stand transplanting so well as the former, and at the end of five or ten years the older trees have really little, if any, advantage over the young ones. Two-year-old trees, I believe, do better for the new orchard than the four and five-year-old

ones. The two-year-old trees seem to be about the ideal ones for starting a young orchard, and they will grow thrifter and adapt themselves to the soil better than trees of almost any other age.

An orchard should not be so large that one cannot give personal attention to individual trees. To get the most out of them it is necessary to be acquainted with every one individually. The orchard that pays the best is built up by attention to each tree to bring out its individuality. One may go through the orchard and find trees not producing well, and a little top-grafting of scions taken from very productive trees will in a few years convert an unprofitable tree into one that pays well. No orchard can do its best without this individual management. The trees that show remarkable ability to produce must be handled so that grafts from them can be distributed over many other unproductive trees. Top-grafting of this kind is the most successful work that can be done in the orchard. The influence of good bearers is thus spread over the whole farm, and each tree is stamped with the individuality of the owner.

Trees with a good mulch in the spring do better than those left untreated, for the moisture is conserved around their roots, and they are apt to grow rapidly. Corn or grass raised in the orchard helps to further the growth of the trees in two ways. They regulate the moisture in the summer, and later they add humus to the soil when plowed under. Of course, the leguminous crops are the best, for they add nitrogen to the soil so much. In fact, a crop of clover raised in the orchard and plowed under will often do more good than if the land had been heavily manured with fertilizers from the barnyard or elsewhere. The clover not only adds nitrogen to the soil, but it takes up the potash and phosphoric acid in the land and makes it immediately available for plant use.

**Remedies for Canker Worm.**

During the last two or three years an increasing injury has been done to many orchards in New Hampshire by the canker worm. This injury is so serious, and might be prevented with such comparative ease, that this bulletin is issued to give the orchardists of the State the latest information concerning methods of combating the pest.

The remedial measures to be used against any insect can best be understood when we know in some detail the life history of that insect. This is particularly true of the canker worm, because one of the practical methods of fighting it is dependent upon a particular fact in its life history.

In briefest summary the story of a canker-worm's life is this: In early spring, about the time the leaves begin to push out from the buds, it hatches from an egg previously laid upon the bark of a twig or branch by a small, wingless moth. The little canker-worm immediately begins to feed upon the green and succulent tissues of the young leaves, a process which it continues from day to day for about a week. It is then too large for the skin with which it was born, and so it moults or sheds its skin, crawling off the old one, clothed in a new one that has formed beneath the other. It soon begins feeding again, eating more and more of the green tissues of the leaf as it grows larger. About a week later this mounting process is again repeated, after which the caterpillars continue feeding as before. In the course of five or six weeks of such growth the canker worms become full grown so far as this caterpillar state is concerned.

When thus grown the canker worms are green or brown, varying much in color more or less striped with longitudinal lines. On the under side of the body are ten legs, six just back of the head and four near the hind end. In moving about, the middle of the body is humped up, and in consequence these insects are commonly called looping caterpillars or measuring worms. When the branch upon which the insects are feeding or resting is jarred, the canker worms drop toward the ground, each spinning from its mouth a silken thread, up which it can crawl again when danger passes.

Late in spring or early summer the full-grown canker worms descend to the ground, where, at or slightly beneath the soil surface, they make slight silken cocoons. Within these they change to chrysalids or pupae, remaining in this condition until the autumn or spring following. Then they emerge as small, grayish moths.

There is a remarkable difference in the appearance of the sexes of these moths. The males have small bodies and broad, well-developed wings; the females have large bodies but no wings. While the former can fly freely, the latter can only crawl up the neighboring trees to deposit their eggs; they die soon afterwards. The eggs hatch when the leaves begin to expand in spring, and the young worms begin their ruinous work.

Those who have studied the canker worms must carefully have found that there are two common species—the fall canker worm (*Anisopteryx pometaria*) and the spring canker worm (*Paleacrita vernata*). The moths of the former species appear and lay their eggs mostly in autumn, while those of the latter appear in the spring. Both species are found in New Hampshire, the spring species being apparently the more destructive.

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There are many sorts of good spraying pumps now upon the market; they may be purchased through any hardware dealer or seedman. The spray should be applied through a nozzle that throws a fine mist, and should be evenly distributed over the tree, stopping just before the leaves begin to drip.—Clarence M. Weed, of the New Hampshire Experiment Station.

**REMEDIAL MEASURES.**

The two practical remedial measures which may be used against the canker-worm are the banding of the trees to prevent the ascent of the moths, and the spraying of the leaves with poisons to kill the worms. The success of the first is due to the fact that the egg-laying female moth is wingless and that she becomes fully developed on or beneath the surface of the ground; consequently to lay her eggs upon the twigs she must ascend the trunk of the tree.

Various substances have been used in the past for this banding of the trees, printer's ink being, perhaps, the most popular of these. The best thing now available, however, is the substance called Bodilene, made by the Bowker Chemical Company of Boston, Mass. This is a thick, pasty material which may be put directly upon the bark of the trees in a wide band, which will remain fresh and in position for months. The manufacturers say that "the band should be from two to two and one-half inches wide, and from one-half to three-fourths of an inch thick at the lower edge. Bevel of the upper side of the band to the bark to shed rain water, and bring the lower side to a sharp edge. The banding is best done on a moderately cold day, using a common, smooth blade trowel for spreading and shaping the band. Working the mixture over with a trowel softens it." The manufacturers also give the following:

**CAUTION.**

"Do not apply Bodilene to young, thin-barked trees. In this case it is best to spray. Remove all bands as soon as the danger from the canker worm is over. This is important. Keep packages closed when not in use, to avoid evaporation."

An orchard should not be so large that one cannot give personal attention to individual trees. To get the most out of them it is necessary to be acquainted with every one individually. The orchard that pays the best is built up by attention to each tree to bring out its individuality.

"In reply to your query regarding my use of 'Bodilene' on my trees in the spring of 1901, I would say that my trees are very large trees, and as I have to hire all my work done I had the 'Bodilene' applied by men who was an expert in the use of the trowel. I ordered material sufficient for two hundred trees, and they sent me two hundred pounds, which cost \$15, on car in Boston. The freight charges and the labor charges brought the cost per tree up to about ten cents per tree. We removed the 'Bodilene' about July 1, as you recommended. It seemed to be very effective, so much so that we shall not apply it to our orchard next year. The application was made April 1 and 2. This was just a little too late, in my opinion, as some of the moths had gone up before the application the ensuing year. However, I think it was effective enough so that I shall not make the application the following year. If the canker worms show any in the orchard in the year of 1902, I shall make two applications of 'Bodilene'—one about Nov. 1, 1902, and the next March 15, 1903. I shall put a little higher than the bands where the 'Bodilene' was applied the previous November. I was obliged to make daily examinations of the bands of 'Bodilene' to take off the moths that were caught each night, to prevent their bridging the bands with their dead bodies."

This banding method is particularly serviceable in the case of orchards which are likely to be badly infested, because it prevents the injury that is bound to occur before the canker worms in such an orchard can be killed by spraying. It is also especially useful in protecting large elm trees which are difficult to spray on account of their height.

If thoroughly applied, the bands will keep the moths and caterpillars of both species away from the trees for a long time. This banding method is easily applicable to orchard practice. In cases where the attack the previous season was severe, it will generally pay to apply bands, even if the orchardist expects to spray his trees, for, as intimated above, it has been the general experience that an orchard badly infested by canker worms cannot be wholly freed from the pests the first season, before considerable damage is done to the foliage. Some New Hampshire farmers have told me that they preferred to fight the canker worm by banding rather than the spraying method, because their other work kept them so busy during the spraying season. But, in general, the orchardist will find it profitable to spray, because he can thus kill off not only the canker worms and other leaf-eating insects, but the codling moth as well, and if he so desires, he can in the same manner fight the apple scab and other fungous diseases.

The spraying method of fighting the canker worms aims to cover the leaves with fine particles of poison so that the young worms will eat it and be killed. When an orchard is infested by canker worms it is very desirable to spray once before the blossoms open. The insects begin hatching early in the season; if trees are not sprayed until after the blossoms fall, considerable damage will be done before the worms are killed. One spraying when the buds are in a well-developed condition will be of much service. Another should be given as soon as the blossoms fall; and if the canker worms are very numerous, a third—a week or ten days after the second—will be desirable.

The spraying may be done either with Paris green, Scheele's green, or arsenate of lead. Paris green may be applied in a water spray at the rate of one pound to two hundred gallons of water, with a pound or two of fresh slacked lime added to each barrel of the mixture to render all the arsenic insoluble, and thus prevent injury to the foliage.

Arsenate of lead is used it should be bought in the form of a paste, and may be used at the rate of three pounds to fifty gallons of water. This poison has these advantages over Paris green: (1) There is no danger of burning the leaves, so that it can be put on in stronger mixture. (2) It remains in suspension in the water better. (3) It adheres to the foliage more evenly and longer. (4) It may be seen upon the leaves more readily, so that the thoroughness of the spraying may more easily be determined.

Scheele's green is another arsenical insecticide recently placed on the market. According to a bulletin

## The Markets.

## BOSTON LIVE STOCK MARKETS.

AD VALS OF LIVE STOCK AT WATERTOWN AND BRIGHTON.  
For the week ending March 12, 1902.

## Sheets

Cattle Sheep Suckers Fat Hogs Veals  
Last week. 3701 5781 160 27,045 1606  
Live stock. 348 4399 68 25,380 1244

## Prices on Northern Cattle.

Per hundred pounds on total weight of  
heifers, calves, and yearlings, extra, \$6.00-\$6.75; first  
quality, \$4.50-\$5.75; second quality, \$5.00-\$5.25;calves, \$4.00-\$4.50; a few choice single pairs,  
steers, \$5.50; some of the poorest, bulls, etc., \$3.00-\$4.

## Young CALVES—Fair quality

\$3.00; extra, \$4.00-\$4.50; fancy milch  
cows, \$5.00-\$6.00; farrow and dry, \$12.00-\$27.00.

Calves—Thin young cattle for farmers: Yearlings, \$12-\$24; two-year-olds, \$14-\$30; three-year-olds, \$15-\$30.

Per pound, live weight, 2½¢ extra;  
fat, sheep and lambs per head, in lots, \$2.00-\$2.50; lambs, 4½¢.Hogs—Per pound, Pei. pound, 6½¢ extra, live weight;  
sheep, wholesale price; retail, \$2.25-\$3.00; country  
dressed hogs, 7½¢.

CALVES—3d to 7d per lb.; country lots, 5¢

DAIRY SKINS—5¢ to \$1.30; dairy skins, 40¢ to 60¢.

BRIGHTON—\$4.50 per lb.; country lots, 2¢

DAIRY SKINS—5¢ to 75¢.

Cattle Sheep Hogs Veals Horses

Watertown... 1429 5781 2,587 973 463

Brighton... 2,272 24,478 638 140 140

## cattle. Sheep.

M. W. F. HUNNISSETT 20  
J. GOULD 102New York. At Brighton. F. L. Cotton 21  
H. N. Gould 25  
T. Thompson 21  
Hanson 24  
M. H. Holt 27Wardwell & Mc-  
Cormick 16

H. M. Lowe 16

New Hampshire. At Brighton. G. W. Brown 10  
A. C. Foss 10  
A. E. D. & W. Wool Co. 40  
Via Lowell 40At Watertown. G. W. Brown 59  
Robertson 59  
W. F. Wallace 59Vermont. At Watertown. A. Williamson 35  
Fred Savage 21  
N. M. Newell 4  
W. E. Haydel 64  
W. G. Hall 11  
N. D. Doran 105  
R. F. French 11  
J. S. Henry 26  
A. E. D. & W. Wool Co. 120

Canada. At Watertown. N. E. D. M. Wool Co. 420

D. Munro 71  
Brown, Snell & Co. 56

Live Stock Exports.

State cattle on the English market at not as wide range as a week ago. Lower grades (c) higher, and best tops (c) easier with range 12½-13½, d. w., and it is quite probable that prices will be no easier next week, as shipments are not heavy. For the week the shipments were 178 cattle, 750 sheep and 38 horses.

Sea Destinations. On steamer Lanstroeter for Liverpool, 301 cattle with Swift &amp; Co. 20, by Morris Beef Company, 12 horses by E. Snow. On steamer Kingston for London, 45 cattle by Armour &amp; Co.; 26 horses by E. F. Roberts. On steamer Pomeranian for Glasgow, 71 Canadian cattle by D. Monroe, 56 Canada cattle by Brown, Snell &amp; Co., 60 Canada cattle by W. Laveck, 20 Canada d. by F. Hunnissett. On steamer Sylvania, for Liverpool, 600 cattle and 750 sheep by J. A. Hathaway. Sheep and lambs 11½-15¢, d. w.

Horse Business.

There are strong indications of a good spring trade, but not for the present and drive. The past week has shown improvement, with prices well sustained on anything desirable. At Cavanaugh Bros. sale stable sold 2 carloads of big horses, of 1500-1700 lbs., at \$35.00-\$45.00 a pair; a fair retail and auction sale. At A. W. Davis' Northampton-street stable sale a marked improvement both in sales and outlook. Considerable inquiry for speed, coach, family and saddle horses at \$100-\$500. At Moses Colman &amp; Son's sale stable a good week at auction and private sale; some sales at \$150-\$250 for family use, with the usual sale of fair grades at \$30-\$125. At Myer, Abrams &amp; Co.'s sale stable sold out carloads at \$100-\$225. At Welch &amp; Hall Co. sales good at \$90-\$225.

Union Yards, Watertown.

Tuesday—Twenty odd carloads of live stock from the North landed at the yards, besides the West, for home trade and export. The market for herefords, and especially a strong price.

Demand quiet, fair and easy. W. F. Wallace sold his beef cows, of 730 lbs., at \$3.40; 2 steers, 120 and 100 lbs., at 4¢; 3 slim cows, 1930 lbs., at 2¢. O. H. Forbush, 1 likely bull, of 1100 lbs., at 3¢; 3 cows, 3680 lbs., at 4¢; 1 cow, 970 lbs., at 3¢; 3 cows, 32½¢; with sales at 2½¢. J. A. Hathaway, 1000 lbs. of 1000 lbs. at 4¢; 20 do., of 1500 lbs., at 6¢; 10 do., of 1500 lbs., at 5¢; 15 do., of 1500 lbs., at 5¢.

Milch Cows.

A good supply received within the range of \$35-\$50, to quality.

Fat Hogs.

Western hogs at steady prices, 6½¢ to 8¢. Local hogs, 7½¢ to 9¢, d. w.

Sheep Houses.

A slight easing, being still at firm prices, but our butchers could buy only in a short way from that source. The Northern supply is still light. A lot of 33 lambs, of 2000 lbs., at 25 sheep, of 2100 lbs., at 4¢. Western sheep steady at \$3.50-\$4.00 100 lbs., and do. lambs at 6½¢ to 100 lbs. Butchers stand ready to buy. Western when prices will warrant their buying them.

Young Calves.

Market steady with 7¢ considered the top sales day at 6½¢ to 7¢ per lb. The quality has to be good, living 7½¢ per lb. Next week will probably be in sales with a weakening in prices.

Droves of Cattle.

Libby Bros., 46 P. A. Berry, 15; Harris Brothers, 60; N. Gould, 7; Thompson & Hanson, 11; M. H. Holt, 20; Wardwell & Mc-  
Cormick, H. M. Lowe, 27

New Hampshire. G. W. Brown, 20; via Lowell, 7; Brock &amp; Wood, 60; W. F. Wallace, 100.

Montgomery, A. Williamson, 45; Fred Savage, 60;

Hartman, 60; N. H. Woodward, 31; W. E. Foss, 60; G. W. Hull, 14; N. Doran, 20; R. E. French, 10; J. S. Henry, 25; via Lowell, 200.

Massachusetts. J. S. Henry, 163; W. A. Bard, 10; A. C. Scattering, 100; J. P. Day, 59; W. F. Adams, 23; A. M. Baggs, 10; H. K. Davis, 12; D. A. Wallace, 20; F. E. Keegan, 15; T. J. Moroney, 25.

Watertown, Tuesday and Wednesday.

Stock at yards: 227 cattle, 24,472 hogs, 633 lambs, 140 horses. From West, 175 cattle, 24,420 hogs, 633 lambs; Maine, 152 cattle, 26 hogs, 353 lambs; New Hampshire, 27 cattle, 26 calves; Massachusetts, 330 cattle, 26 hogs, 212 calves; New York, 42 cattle, 43 calves.

Tuesday—The market well supplied with cattle for home and foreign trade, and the general tone is not steady prices; some sales were quite strong

FOR SALE—Solid colored bull. Dropped: Aug. 11, 1901.

F. W. Wall, 25; for 14-lb. full, last birth. Sophie son, 19 lbs., 124 oz., from 335 lbs.

2 oz. milk, 11½ lbs., 2 oz. in 10 oz. bone, 7½ lbs., 14 oz. bone, 14 oz. bone. Second dam, Stalactite 26, 17 lbs., 104 oz., for pri-

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## Our Homes.

## The Workbox.

## Men's Golf Sweater.

Use four-fold Columbia Germantown yarn, 7 hanks of scarlet, No. 7, 1/2 hanks navy blue, 3 bone knitting needles, 10-inch, size 4, 4 long steel knitting needles, size 11.

These are nice for golfing, bicycling, boating, etc. Cast on bone needles 110 stitches.

1st row—One plain, purl 1, 3 plain, purl 1, continue thus across the needle, turn.

2d row—Purl 2, 1 plain, purl 3, 1 plain, continue across needle, turn.

3d row—Three plain, purl 1, 3 plain, purl 1, continue across needle, turn.

4th row—One plain, purl 3, 1 plain, purl 3, continue thus across the four rows until you have 34 rows of color (selected for collar, cuffs and the bottom band). Now holding wrong side towards you purl across the first row with color for body, then for second row, 1 plain, purl 1, making rib of one and continue thus for 200 rows.

When the 200th row has been reached knit 1 plain, purl 1 for 35 stitches, binding off 40 stitches, and allowing 33 stitches corresponding to the first 35 to remain on extra needle. Continue rib of 1 and 1 for 15 rows, taking extra needle on opposite side, rib 1 and 1 for 15 rows. Join these two shoulder pieces by casting on 40 stitches in the centre to correspond to the 40 that have been bound off on front. Now continue rib of 1 and 1 until you have a length to correspond to the front, finishing the bottom of the back with band to correspond in front.

For the collar: Pick up stitches around the neck on the 3 steel needles, and with the fourth needle rib 1 and 1 until you have 75 rows. Bind off. Centre the body on shoulder, and from each side of this centre pick up 25 loops, in each loop making 2 stitches, using the bone needle. This will make 100 stitches.

For the sleeves: Rib 1 and 1 for 9 rows.

10th row—Narrow each end of the needle. Continue thus in rib of 1 and 1, narrowing every tenth row at each end of the needle, for 90 rows; then narrow every other row for 10 rows. Now rib 1 and 1 for 10 rows.

(Now with color for the cuffs) holding wrong side towards you purl across the first row.

2d row—One plain, purl 1, making a rib of 1 and 1 with the same needle used for collar for 75 rows. Sew up the seams from the tip of the cuff to the bottom of the band.

EVA M. NILES.

## Sir Henry Thompson on Diet.

Sir Henry Thompson, in his day the best known genito-urinary surgeon in Great Britain, has just published a book on diet. Sir Henry has long held decided views on this matter, as well as being the champion of cremation.

At the age of fifty-two, thirty years ago, he became total abstainer on account of suffering from dyspepsia and rheumatism, and received great benefit from the pursuance of teetotalism. Five years ago he, as an experiment, drank two or three glasses of claret a day, but, as the dyspeptic symptoms and pains in the joints returned, he has abstained from alcohol ever since.

Sir Henry Thompson declares that after abandoning alcohol entirely the joints lost their stiffness, and ultimately became as supple and mobile as they were in youth and continue so to this day. More than half our bodily ills, he believes, are due to improper feeding, and holds that the older one gets the less nourishment one needs.

In his opinion, the head of many a family is veritably killed by the mistaken kindness of his wife in stuffing him with delicacies he cannot digest, on the plea of keeping up his strength.

The martyr to his wife's solicitude is persuaded to swallow all kinds of patent fonda, so nutritious that his gastric juices are unable to do their duty.

The English surgeon is not an absolute vegetarian, but thinks that three-fourths of our food should be vegetable. Such a diet, he contends, renders the brain clearer and more active, inspires wit, and tends to preserve an equable and placid temperament. The person who thus eats wisely but not too well does not make himself obnoxious by snoring in his armchair, as is so often the case with those who fill themselves to repletion with meats and highly flavored foods. Indigestion is unknown to a man who is strictly temperate in diet, and he is in every way best fitted to fight well the battle of life.

## New Theory of Diet.

A new plan for retaining the charm of youth has been evolved. It requires a continual dieting, but one so easily followed that few of the inconveniences of most systems are present. Eat uncooked apples constantly, although, of course, in moderation, and drink distilled water only, and, according to the new theory, years will be added to your life, while the evidences of age will be long in coming.

Professor Bluefern is the sponsor of the new theory, and his argument is based on the supposition that as age advances the deposits of mineral matter in the system increase, and that aging is little more than a gradual process of ossification.

Phosphoric acid contains the least amount of earth salts, and for that reason is probably the nearest approach to the elixir of life known to the scientific world.

If you want to live long, to retain your youth at the same time, and to increase your brain tissue, eat plenty of apples, don't peel them, drink only distilled water, and eat as little bread as possible. A diluted solution of phosphoric acid is also recommended by the professor to those who care to take pains to follow the diet which he has outlined.

## Dangerous Cobwebs.

Many cases of tetanus, or lockjaw, are now appearing in the public prints. Mrs. Frankland tells of lockjaw having been caused by the application of a cobweb to a slight cut.

The wound was a perfectly clean one, and nothing need have resulted from the obedience to a superstitious prejudice had not the cobwebs unfortunately arrested some local germs, and these, getting across the wound, set up the typical symptoms of lockjaw. That this implication of the cobweb was no idle accusation was subsequently proved by portions of the same web, on being inoculated into animals, inducing in the latter dead-like symptoms of tetanus.

That cobwebs readily catch dust is familiar to every one who has the mortification of seeing them adorn ceilings and corners; that they also arrest bacteria follows as a natural consequence of the presence of dust, and hence those delicate filaments may become veritable bacterial storehouses, more especially as it is usually in the dark and remote corners that they best succeed in eluding the vigilance of the domestic eye, and are also out of reach of the lethal action of sunbeams, and hence their unwelcome lodgers may manage to maintain a very comfortable

existence over long periods of time.—*New York Times*

## To Remove Stains on Table Linen.

White table linen, which may be boiled and bleached, is easily washed, yet a great many pieces are ruined by careless laundresses who do not attempt to take out the stains until they have been "set" with water and soap, or even boiled in. A stain that has been treated in this way is a difficult thing to remove.

It is an important matter to examine all tablecloths, napkins, doilies and any other pieces of table linen, and remove all the stains before sending them to the wash. The stains may be permanently "set" with cold water.

When they are fresh fruit stains will ordinarily come out by soaking the spots in boiling water. The water must be bubbling. Tea stains are difficult to eradicate if once "set." They usually disappear if first rubbed with the yolk of an egg, then with glycerine, and then washed out with warm, not boiling, water and a simple, pure soap. When the spots are "set" and obstinate, dissolve a quarter of a pound each of chloride of lime and of common washing soda in three quarts of boiling water, and bleach the spots by rubbing them in this solution and then in clear water.

Iron rust stains may always be removed by putting salt on them and squeezing over them the juice of a lemon. Lay the linen in bright sunlight to bleach. If the spots do not come out with one application try a second one.

A fresh coffee stain will usually disappear if boiling water is poured over it. If the stain has been dried, wet with the yolk of an egg mixed with a tablespoonful of tepid water, and then wash it out with warm, not hot water and brown soap. Some acid vegetable stains are very obstinate. Try dipping them in weak but boiling hot chloride water and wash them out. Sometimes the fumes of a sulphur match will bleach out the stain.

The old idea that the stains of wine disappear if salt is poured over them is not always true. Rub wine stains that will not come out with ordinary brown soap, cover this with thick, raw starch, and lay in a strong sunlight until the stain bleaches out. This may be removed by rubbing the stain with butter and then washing it out with warm water and turpentine. Paint and varnish come out with turpentine. Ink and almost any stain that will not come out by the methods given may be removed by weak oxalic acid and lemon juice. Dissolve a tablespoonful of oxalic acid and one of lemon juice in a pint of rain water and keep it on hand in a bottle. As soon as the spots are removed, wash out the stain mixture in clear, cold water.

The stain of an overhot iron is sometimes difficult to remove. Try rubbing the scorched spot with a cloth dipped in hot chloride water, and wipe this off with clear water.—*New York Tribune*.

## Asthma.

In popular usage asthma is a term employed to describe a well-known condition; yet it is significant of the broadened knowledge of diseases in general that, as a distinct disease, the name is applied in a more and more restricted sense by physicians.

For example, the asthma of which Doctor Johnson complains in his later years, as recorded by Boswell, is so clearly set forth by the faithful biographer that the modern physician is even now able to determine that an affection of the heart was responsible for it.

Asthma is often a family affection, and is frequently traceable to parents, grandparents or great-grandparents. Most sufferers are of an excitable, emotional or "nervous" temperament. It bears a rather striking analogy to epilepsy, in that its attacks are characterized by suddenness and influenced by strong emotions, like fear or grief, and not infrequently occur at night, when the sufferers may be plunged from deep sleep into an attack. In both diseases excitement during the day is often followed by attacks

Physicians believe, however, that a high-strung organization alone is not sufficient to develop the disorder, but that some other source of irritation must be added; that is, some faulty state of the system elsewhere, like disease of the digestive tract, harmful factors circulating in the blood, obstacles to free breathing in the nose, and others.

Whatever may be the source, they must be dealt with energetically and at an early stage, since long-standing cases of asthma invariably develop changes in the lungs and heart which are permanent. The disease can then be dealt with only by measures aimed at palliating and cutting short the separate attacks, and with no reasonable hope of an actual, permanent cure.

For the young sufferer and for those in the early attacks of asthma, the writer would emphasize the necessity of a thorough search for and the removal of, any and every error in hygienic living, in order to avoid the suffering of the chronic asthmatic and the further diseases which it brings in its train.—*Youth's Companion*.

## Disease Spread Far by Cats.

That the microbes of the bubonic plague has been carried across seas by rats on board ships is a fact demonstrated by science. It is also said to be demonstrable that malarial fever is disseminated among the inhabitants of tropical lands by the mosquito.

The cheerfully buzzing bluebottle fly has been accused of conveying blood poison from putrefying carcasses to human beings. But it is not so generally known that many of the diseases of humanity may be contracted by that favorite of all our domestic animal friends, the sleek and purring cat, and communicated through it to human beings.

In one locality in Canada where a quickly fatal type of diphtheria was prevalent the spread of the disease was for a long time exceedingly puzzling to those who engaged in fighting it. As the community was widely scattered, and the popular fear of the disease very great, it might appear to have been easily avoided.

But day after day new cases appeared in houses separated by long distances until a kind of panic set in, and most of the uninhabited families shut themselves up in their houses, and refused all communication with friends, strangers or visitors.

Still the disease continued its ravages with deadly effect, until a clue was accidentally given by a young woman who called across the front garden from the doorway of her home to a passing traveler to inquire about the diphtheria epidemic. There was no other house within a mile or two, the road was little used and the family had so far escaped the plague.

"It's as lonely as can be," the young woman declared. "We go nowhere and nobody comes here. The only excitement is over the cats, for old Jim is very sick, and the little Manx tortoiseshell is dead. We cannot think what in the world is the matter with them."

The words came back to her friend as he stood at her graveside two days later, and heard that two lads of the household were also in the grip of diphtheria.

Then a woman of means in a neighboring house asked the advice of the local practitioner respecting her Angora, which had a sore throat. On general principles he refused to have anything to do with grimal kin, but advised doing away with it at once.

Instead of following the advice the woman vainly attempted to save her pet's life by blowing sulphur down its throat. The next day she developed diphtheria, and within the week her baby was buried and she was fighting between life and death, from which she escaped, a physical wreck.

After that the cats were looked after, when to the general surprise it was discovered that very few were to be found. Those that remained had short shift of it, but were sacrificed to the public good.

When the plague subsided there was not a pusy in the community, and it was discovered that very few were to be found. Those that remained had short shift of it, but were sacrificed to the public good.

The unsightly yellow spots left by machine oil on white goods can be removed by rubbing them with a cloth dipped in ammonia, then washing with soap and water. Kerosene will remove the oily substance which forms on sewing-machine threads.

To make soap for washing blankets shave fine two pounds of good white soap, and put into a saucerman with two quarts of boiling water. Keep on the fire until the soap is dissolved, stirring occasionally. Add four ounces of borax, stir well, and the soap is ready for use. Never use brown soap when washing woolen goods.

Put all the soap through a meat chopper; then set over the fire in enough cold water to cover them. Cook until the fat is melted and the water is almost evaporated. Then strain, pressing all the fat from the pieces. Put this away in a cool place, where it will form into a solid cake. When it can be lifted from any water that may have remained in the bottom, put it with any other fat that you may have, that requires clarifying.

Before setting any sort of bridle-a-brace, and especially braces, remove all the dust possible. The less dust water finds about the lines and crannies the less it can leave there. After dusting wash well in strong white soapsuds and ammonia, rinse clean, polish with just a suspicion of oil and rotten stone, and rub off afterward every trace of the oil. Never let acid touch a bronze surface unless to eat and pit it for antique effects.

The little trifles of gauze, lace, or mousseline that young women like and need for the light protection of throat and shoulders when in evening dress, can be accumulated in almost any large city by watching the remnant rates at the counters in the shops where the thin, expensive fabrics for ball gowns are sold. When a piece of goods has narrowed down to a yard or two, its price is reduced to a very low figure, and the chance to pick up a very nice effect is increased to ten times.

It is a dainty novelty in neckwear is the leaf effect box. It is constructed of small pieces of silk or chiffon, cut in the form and size of flower petals, and has long stamens at the front trimmed in the same manner.

The complexion veil promises to usurp the place of the chiffon as the weather becomes milder. Black is the most in demand, and a few complexion veils of black and white are worn occasionally a touch of blue is added.

A new finish for waists consists of a white belt, decorated with finely plaited black chiffon, which is in turn bordered with a narrow silk pompadour ruching. This has the effect of a bertha and gives the desired width at the shoulders.

The chain on which the fashionable woman carries her metal pocketbook is now made of black jet. A few are of black metal, with tiny pieces of jet set in at intervals.

A dainty belt buckle for a seashore costume has a scroll of water lilies, with a dolphin in the centre, and is made in gold or oxidized silver.

White suede gloves are popular. In the gloves are also a small leading shade, and the four-finger length with rounded corners at the wrist.

Mitts made of Greek nets are embroidered with silk or jet or colored beads, and even gold, silver or steel. At the wrist are drawn in narrow ribbons. Mitts, says the Dry Goods Economist, are already in use for evening wear, and will be popular for street wear later in the season.

## Domestic Hints.

## CREAM CHICKEN SOUP.

Three to four pounds of fowl, three quarts of cold water, one tablespoonful of salt, six pepper corns, one tablespoonful of chopped onion, two tablespoons of chopped celery, straw, water cool, remove the fat. For one quart of stock allow one pint of cream or milk. Boil the stock, add one tablespoonful of butter and one tablespoonful of cornstarch, cooked together; one teaspoonful of salt and one saltspoonful of white pepper. Have two eggs well beaten in a tureen and strain soup over them. Serve at once.

## CREAMED SWEET POTATOES.

Ingredients: One pint of milk, eight medium-sized cooked sweet potatoes, butter the size of an egg, salt and pepper to season, and flour to thicken. Make a cream sauce by heating the milk in a double boiler, thickening with flour and adding the butter and seasoning. Cut the sweet potatoes into small dice, put them in the sauce and let the whole cook for ten minutes. If liked, sprinkle chopped parsley over the top when serving. Another way of cooking sweet potatoes is to place them in the pan around a roast, and let them cook with the meat. They should be frequently basted with the dripping.

## FARINA CUPS.

Make a syrup of one pint orange juice, two cups sugar, one cup water, rind of one-half an orange, juice of one lemon, and sufficient liquid to make a quart of water. Bring to a boil, add gradually one cup farina, stirring for a minute, stirring constantly. Fill cups or punch glasses previously wet with cold water. When hardened and ready to serve turn out, and garnish with whipped cream and fruit. Strawberries, cut peaches or almost any fruit may be used.

## CELERI CUP.

One-half pint of strong beef tea add an equal quantity of boiled milk, thicken slightly but evenly. Boil twenty minutes with the white stalks of a bunch of celery. Add butter, salt and pepper. Strain before serving.

## VEGETABLE HASH.

Cook equal parts of boiled vegetables, such as potatoes, beets, carrots, onions, parsnips, etc. Mix well together. Put slices of pork in a pan and brown it. Add a few pieces of bacon and chop fine; add to the hash. Turn the hash into the pan in which the pork was fried and cook until very hot. Turn out on a hot platter and garnish with parsley.

## Hints to Housekeepers.

A pretty bedroom candle holder is a convenient for the small table or trivet. The holder is of silver and has a tiny lid fastened. The candle is thick but very short, and fits tightly in the socket, a flat lid of silver closing over it when not in use. The whole outfit is both compact and handsome, takes a trifles of room in the hand satchel, and is one of the greatest possible convenience to the tourist in this country or in Europe.

Cuban dessert is leche dulce (sweet milk),

which is prepared by putting on a quart of milk to boil, sweetened with a cup of molasses or sugar, and two table-spoonfuls of lemon juice to make it curdle. It does so in large pieces; then sprinkle with a teaspoonful of ground cinnamon. When eating it and cutting through these pieces with the spoon it resembles a piece of cake in sauce. This is a favorite dish with every one.

The words came back to her friend as he stood at her graveside two days later, and heard that two lads of the household were also in the grip of diphtheria.

Then a woman of means in a neighboring house asked the advice of the local practitioner respecting her Angora, which had a sore throat. On general principles he refused to have anything to do with grimal kin, but advised doing away with it at once.

Instead of following the advice the woman vainly attempted to save her pet's life by blowing sulphur down its throat. The next day she developed

# CONSTIPATION

Edward Piles, Fullness of the Blood in the Head, Acidity of the Stomach, Nausea, Heartburn, Disgust of Food, Fullness or Weight in the Stomach, Sour Eructation's Sinking or Fluttering of the Heart, Choking or Suffocating Sensations when in a lying posture, Dimness of Vision, Dizziness on rising suddenly, Dots or Webs before the eyes, Fever and Dull Pain in the Head, Insufficiency of Perspiration, Yellowness of the Skin and Eyes, Pain in the Side, Chest, Throats, and Sudden Flushes of Heat, Burning in the Flesh. A few doses of

## Radway's Pills

will free the system of all the abovenamed disorders. Price, 25 cents per box. Sold in all druggists, or sent by mail on receipt of price.

RADWAY & CO., 55 Elm St., New York

### Poetry.

#### LIGHTENED LABOR.

"Tis hard life's duties to perform,  
When we are tired and wish to dream,  
But love will lighten labor so,  
And make it sweetest pleasure seem.  
It keeps our thoughts above the told,  
On comforts which our work will add,  
And send such thoughts of sweet delight,  
When we without them might be sad.  
And think our lot was pretty hard,  
And worthy the constant care,  
But oh! how love will lighten toll,  
And all the heavy toil we bear,  
Till work seems easy, to make all nice  
For dear ones who love so well;  
How well we feel repaid for it all;  
When they their approbation tell.

MARTHA SHEPARD LIPPINCOTT.

Moorestown, N. J.

FROM AN "ITALIAN RHAPSODY."

Dear Italy! The sound of thy soft name

Soothes me with balm of Memory and Hope.

Mine, for the moment, height and sweep and slope.

That once were mine, Supreme is still the aim

To flee the cold and gray

Of our December day,

And rest where thy clear spirit burns with un-

consuming flame.

There are who dream remembered beauty best,

And thine, imagined, fairer is than sight

Of all the charms of other realms confessed.

Those miracle sea and land and light.

Was it, lest, envying thee,

The world unhappy be,

Benignant Heaven gave to all the all-consoling

Night?

Who can withstand thee? What distress or care

But yields to Naples, or that long day dream

We know as Venice, where, alone, more fair

Noon is than night; where every lapping stream

Wooes with a soft caress

New-world weariness,

And every ripple smiles with joy at sight of scene

so rare.

Then my hearted land, whose revels hold

Man in communion with the antique days.

And summon him from prosy greed to ways

Where youth is beocking to the age of gold;

How thou dost hold him near

And whisper in his ear

The lost Paradise that lies beyond the alluring

haze!

In tears I tossed my coin from Trevisi's edge,—

A coin unsordid as a bond of love,—

And with the instinct of the hounding dove.

I gave to Rome my rendezvous and pledge.

And when imperious death

Has quenched my flame of breath,

Oh, let me join the faithful shades that throng

that found above.

—Robert Underwood Johnson in the March At-

lantic.

#### WINTER DREAMS.

Deep lies the snow on wood and fields;  
Gray stretches overhead the sky;  
The streams, their list of laughter sealed,  
In silence wonder slowly.

Earth slumbers, and her dreams—who knows?

But may they sometimes be like ours?—

Lyrics of Spring in Winter's prose.

That sing of buds and leaves and flowers:

Dreams of that day when from the south

Comes April, as at first she came,

To hold the bare twig to her mouth

And blow it into fragrant flame.

—Frank Dempster Sherman, in the Atlantic.

A BACHELOR'S TRIIBULATIONS.

I'm on her dress!—

Just hear it!—

Great heavens! I'm

Unlucky!—There—

Oh, horrors!—See—

Her turn and glare!

Such thoughts as mine!

I'm lost!—

She doesn't speak!

But I declare!—

I'd give the world

If she would swear!

—Lowell Otis Reese, Oakland, Cal.

MOTHER SONG.

[From the Portuguese.]

Heavy my heart is, heavy to carry,

With soft foldings of downy emwraps—

Not the outer fold of all is love,

But the soft fold is love,

Not the next, finer and softer, is love again;

Not were they unwound before the eyes

One fold and more folds and more folds would

Love—always love,

Not quite at the last.

Up in the nest, in the soft-packed nest,

Not fold, turned back, would disclose

A little heart of my heart,

There so warm, so soft, so soft,

Showing where you lie, nor how softly,

Not you are so soft, so soft,

Not love is least when warm.

A little heart of my heart;

Not in my heart,

Safe and soft as this body of yours,

Not a fair-kissed body of yours that lies

Safe in my arms and sucks the strength from

My breast,

Not strength you will break my heart with one of

these days.

—Pall Mall Gazette.

Writings of the most observation made by himself and others on the part of the solar system which lies beyond the red end of the ordinary prismatic, or visible, spectrum, and consists of four-fifths of the radiant energy of the sun, Prof. S. P. Langley says that we are beginning to see that the seasons, "which write the evening upon the records of the spectrum," mark in the future, have their effects upon the weather foretold by means somewhat similar to the latter, day by day by the Weather Bureau, but in a way infinitely more far-reaching than these weather records come from the direct study of the sun. There are strong indications in the direction of a future power of prediction as to coming years of plenty and of famine.

### Miscellaneous.

#### The Philosopher in the Fog.

The Philosopher spread himself with an air of singular cheerfulness as he breasted the fog. The conditions surrounding him were the precisest of a character to furnish a very satisfactory test of the philosophy of which it was his boast to profess, and the discomfort of the moment affected him only in so far as it enabled him to rise superior to it. He moved through an opaque, yellow-white world of impenetrable mystery. He was conscious of others moving about him, but could not see them. He might be less satisfied, if he might judge from what he had learned, than rose up out of the encroaching darkness. Palpable though invisible objects passed and regressed him at every conceivable angle, cannoneing upon each other with aggressiveness, stupidity, and not infrequently cannoneing upon himself, as he steered his way in what he imagined to be a straight line along a straight pavement.

The pavement—as he remembered it from almost his childhood up—was certainly straight, and ran from St. James's past the National Gallery, and then made the more surprising when, a few yards farther on, the Philosopher fell into a carbuncle in the middle of the road into the arms of a policeman.

"Traffafar square, I conceive?" said the Philosopher blandly as he readjusted his hat.

"Pleccid Circus," said the policeman gruffly. "Dear me! you don't mean it?" rejoined the Philosopher. "That accounts for my having collided with so many substantial shades during the last few minutes. I appear to have lost to an extent my sense of direction."

"You aren't the fast," said the policeman, in a tone of encouragement. "If you go on long enough you'll come somewhere."

The Philosopher was evidently a germ of philosophy that it tickled the Philosopher into an appreciative chuckle.

"So might Epletets speak!" he exclaimed, gleefully. "I perceive you to be a student of Truth, my friend! Good evening!" and he continued his way with an uncertain but comical gait. He was brought up very shortly by the unexpected propinquity of a horse.

"Sir, you are on the pavement!" remonstrated the Philosopher.

"You're on the road, more like!" retorted a voice, presumably belonging to a phantom driver up the rear. "Can you tell me where I am?"

"I was about to address the same inquiry to you," replied the Philosopher, "coupled with a request that you should drive me home again."

"The Philosopher found himself momentarily embarrassed. As far as his own personal intentions were concerned, it was a circumstance of equal indifference whether he went to Chelsea or Belgravia. But his companion's distress was evident, and in a measure, he had constituted himself her protector. He felt, therefore, that he must consult her prejudices in the matter of a destination.

"You must be aware," he said gently, "that no cab driver would take you a dozen yards in this fog. Listen to the sounds around you! They resolve themselves into one vast universal inquiry."

"Oh, but I don't want to go to Chelsea!" she cried in alarm. "I want to go to Lancaster Gate! What shall I do?" she added, clasping her hands.

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